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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/595,824	05/15/2006	Christophe Colignon	LAV0313828	7288
29980	7590	09/05/2007		
NICOLAS E. SECKEL Patent Attorney 1250 Connecticut Avenue, NW Suite 700 WASHINGTON, DC 20036			EXAMINER NGUYEN, TU MINH	
			ART UNIT 3748	PAPER NUMBER
			MAIL DATE 09/05/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/595,824	<b>Applicant(s)</b> COLIGNON, CHRISTOPHE	
	<b>Examiner</b> Tu M. Nguyen	<b>Art Unit</b> 3748	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 12 May 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 May 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>20060512</u> | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

1. An Applicant's Preliminary Amendment filed on May 12, 2006 has been entered. Claims 1-8 have been amended and are pending in this application.

#### ***Drawings***

2. The formal drawings filed on May 15, 2006 have been approved for entry.

#### ***Specification***

3. The abstract of the disclosure is objected to because of the use of open ended phrase "comprise" on line 6; and the use of legal phrase "means" on lines 1, 2, 5, and 6. Correction is required. See MPEP § 608.01(b).

#### ***Claim Objections***

4. Claims 2, 4, and 8 are objected to because of the following informalities:
  - Claims 2 and 4, line 2 of each claim, "comprise" should read --comprises--.
  - Claim 8, line 3 of the claim, "from" should read --from at least one of--; and on line 6 of the claim, "and/or" should read --and--.

Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office Action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. **Claims 1, 2, 7, and 8 are rejected under 35 U.S.C. 102(e) as being anticipated by Morimoto et al. (U.S. Patent 6,708,487).**

Re claim 1, as illustrated in Figures 1 and 4-7, Morimoto et al. disclose a system for assisting the regeneration of depollution means (12) associated with oxidation catalyst-forming means (11) implementing an OSC function, constituting a supply of oxygen and integrated in an exhaust line (30) of a motor vehicle diesel engine, in which the engine is associated with common rail means (not shown but inherently must have in order to feed fuel to each fuel injector (42)) for feeding its cylinders with fuel, the system comprising means (55, 56) for analyzing the running conditions (value of injection fuel quantity, engine speed) of the vehicle and for comparing (in step S11) them with predetermined threshold values (the values of injection fuel quantity and engine revolution or speed outside the Continuously Regenerable Area in Figure 4), to control the engine in a first regeneration mode of operation with a lean mixture when running conditions are above the threshold values (when the engine is in the

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Continuously Regenerable Area, a normal lean operating condition of the engine is maintained to regenerate the particle filter (12) (also see lines 50-63 of column 7)).

Re claim 2, in the system of Morimoto et al., the depollution means comprises a particle filter (12).

Re claim 7, in the system of Morimoto et al., the engine is associated with a turbocharger (21, 31).

Re claim 8, in the system of Morimoto et al., the running conditions are determined from at least one of the load (injection fuel quantity) on the engine and its running speed (engine revolution or speed).

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office Action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. **Claims 3 and 4, 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morimoto et al. as applied to claims 2 and 1, respectively, above, in view of Asanuma et al. (U.S. Patent Application 2002/0007629).**

Re claim 4, the system of Morimoto et al. discloses the invention as cited above, however, fails to disclose that the depollution means comprises a NOx trap.

As shown in Figure 18, Asanuma et al. disclose a device for purifying an exhaust gas of a diesel internal combustion engine, comprising a particle filter (70). As depicted in Figure 22 and indicated in paragraphs 0091-0092, Asanuma et al. teach that it is conventional in the art to include a NOx trap and a noble metal catalyst on both sides of a partition wall (54) in the particle filter so that the filter is adapted to remove and purify harmful NOx emissions in the exhaust gas. It would have been obvious to one having ordinary skill in the art at the time of the invention was made, to have utilized the particle filter taught by Asanuma et al. in the system of Morimoto et al., since the use thereof would have been routinely practiced by those with ordinary skill in the art to remove and purify harmful NOx and particulate matter emissions in an exhaust gas stream.

Re claims 3 and 6, in the modified system of Morimoto et al., the depollution means are impregnated with an SCR formulation (NOx absorbent and noble metal catalyst), performing a function of oxidizing CO/HC.

**9. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Morimoto et al. as applied to claim 1 above, in view of Rao (U.S. Patent 4,655,037).**

The system of Morimoto et al. discloses the invention as cited above, however, fails to disclose that the fuel includes an additive that is to be deposited together with the particles with which it is mixed on the depollution means in order to facilitate regeneration thereof.

Rao discloses a carbon ignition temperature depressing agent and a method of regenerating a particle filter utilizing the agent. As indicated on lines 30-42 of column 3 and line 58 of column 3 to line 14 of column 4, Rao teaches that it is conventional in the art to

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include an additive (metal oxide) in an engine fuel so that the additive is deposited together with the particles with which the additive is mixed on a particle filter in order to facilitate regeneration thereof by reducing an ignition temperature of the particles. It would have been obvious to one having ordinary skill in the art at the time of the invention was made, to have utilized the additive taught by Rao in the system of Morimoto et al., since the use thereof would have been routinely practiced by those with ordinary skill in the art to save fuel or electricity by reducing an ignition temperature of the particles.

***Prior Art***

10. The IDS (PTO-1449) filed on May 12, 2006 has been considered. An initialized copy is attached hereto.

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure and consists of five patents: Shinzawa et al. (U.S. Patent 5,287,698), Ohtake et al. (U.S. Patent 6,931,842), Otake et al. (U.S. Patent 6,952,919), Otake et al. (U.S. Patent 7,062,906), and Koga et al. (U.S. Patent 7,137,247) further disclose a state of the art.

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*Communication*

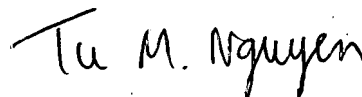
12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Tu Nguyen whose telephone number is (571) 272-4862.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Thomas E. Denion, can be reached on (571) 272-4859. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TMN

September 3, 2007



Tu M. Nguyen

Primary Examiner

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